UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,938	03/11/2004	Douglas R. Svenson	046088/267693	4873

826 7590 08/28/2006

ALSTON & BIRD LLP
BANK OF AMERICA PLAZA
101 SOUTH TRYON STREET, SUITE 4000
CHARLOTTE, NC 28280-4000

EXAMINER	
WHITE, EVERETT NMN	

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/797,938	SVENSON ET AL.	
	Examiner	Art Unit	
	Everett White	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/20/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed April 20, 2006 has been received, entered and carefully considered. The amendment affects the instant application accordingly:

(A) New Claims 47 and 48 have been added;
(B) Claims 1, 5, 16, 25, 26, 31, 35, 38, 43 and 44 have been amended;
(C) Comments regarding Office Action have been provided drawn to:
  (I) Claims objection, which have been withdrawn;
  (II) 112, 2nd paragraph rejection, which have been withdrawn;
  (III) 102(b) rejection, which has been maintained for the reasons of record;
  (IV) 103(a) rejection, which has been maintained for the reasons of record.

2. Claims 1-48 are pending in the case.

3. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 stand rejected under 35 U.S.C. 102(b) as being anticipated by Heikkila et al (US Patent No. 6,512,110) for the reasons disclosed on pages 3 and 4 of the Office Action mailed November 21, 2005.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3-48 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkila et al (US Patent No. 6,512,110) for the reasons disclosed on pages 4-7 of the Office Action mailed November 21, 2005.

Arguments

8. Applicant's arguments filed April 20, 2006 have been fully considered but they are not persuasive. Applicants argue against the rejections of the claims under 35 U.S.C. 102 and 103 on the ground that the xylanase treatment used by the Heikkila et al patent does not bleach the pulp. This argument is not persuasive since xylanase is a bleaching agent for paper pulp. See, for example, the Derwent title and abstract of the Breton et al WO publication (WO 9714803) wherein the title and abstract disclose "heat stable xylanase being useful for the bleaching of paper and for production of xylose and related oligosaccharides from plant material." Also see the text in the WO 97/14803 document at the sentence bridging pages 9 and 10 wherein it is stated that "the use of xylanase as an auxiliary in the bleaching of paper pulp is all the more advantageous for the fact that the preparations are devoid of cellulase contaminants". The Derwent title and abstract and the text in the WO 97/14803 document clearly shows that the use of xylanase as a bleaching agent of paper pulp is well known in the art.

Applicants also argue against the rejection on the ground that the Heikkila et al document fails to disclose or suggest the step of providing a pre-hydrolyzed pulp. This argument is not persuasive because the Heikkila et al patent discloses as one embodiment of the invention, the process comprises a treatment of the pulp with an

aqueous solution of an alkali before the xylanase treatment (see column 5, lines 30-32). This pre-treatment of the pulp with an aqueous solution of alkali qualifies as pre-hydrolyzation of the cellulose pulp since this treatment is carried out before the xylanase treatment (or bleaching step) of the cellulose pulp, just as disclosed in the instant claims. Also see lines 39-42 of the Heikkila et al patent which states "in the process of the present invention, either the starting pulp or the solid material obtained after the alkali treatment of the pulp is contacted with a mixture of water and an effective amount of at least one xylanase enzyme. Also see column 6, lines 28-31, wherein the Heikkila et al patent explains that "in the alkali treatments optionally included in the process of the present invention, the solid pulp material to be treated is contacted or digested with an aqueous sodium hydroxide solution at a temperature of about 50 to 100°C", which gives further details about the treatment of the cellulose pulp during pre-hydrolyzation of the pulp, the treatment of the xylan after the xylanase enzyme treatment, and the temperature at which the alkali treatment is carried out, which embraces the temperature value disclosed in newly added instant Claim 47. Newly added Claim 48 is substantially identical to original Claim 1 with the addition of the purity of the xylose product, which is obviously rejected over the Heikkila et al patent since the starting materials and process steps of instant Claim 48 embraces the starting materials and process steps disclosed in the Heikkila et al patent. Accordingly, the rejection of Claims 1 and 2 under 35 U.S.C. 102 and Claims 3-48 under 35 U.S.C. 103 as being anticipated by and unpatentable over the Heikkila et al patent are maintained for the reasons of record.

Summary

9. All the pending claims (1-48) are rejected.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner's Telephone Number, Fax Number, and Other Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

E. White

Shaojia A. Jiang
Supervisory Primary Examiner
Technology Center 1600